

# Pulmonary Kaposi Sarcoma in AIDS

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A 34-year-old man presented to the hospital with a productive cough, dyspnea, subjective fever, chills, and myalgias. Fever, tachycardia, tachypnea, and severe hypoxemia were noted on arrival. Examination revealed a frail, diaphoretic man in considerable respiratory distress, with diffuse bilateral rales and rhonchi; a violaceous, raised rash over the limbs and trunk was also noted. Findings on chest radiography were suggestive of multilobar pneumonia. A rapid oral antibody test for human immunodeficiency virus (HIV) returned a positive result.

Computed tomography of the chest showed striking flame-shaped opacities and spicular thickening of the bronchovascular bundles in all lobes (panels A, B, and C, arrows). These findings are characteristic of pulmonary Kaposi sarcoma (KS).<sup>1</sup> In our patient, the diagnosis was confirmed by bronchoscopy and skin biopsy. Computed tomographic features of KS are extremely helpful in guiding the initial management of HIV-infected patients presenting with symptoms of pneumonia.

Kaposi sarcoma in HIV-infected patients is diagnostic of AIDS. The goals of therapy in AIDS-associated pulmonary KS are prevention of progression and reduction of tumor burden. Initial management consists of highly active antiretroviral therapy, as this is associated with lesion regression and prolonged survival.<sup>2</sup> After optimizing highly active antiretroviral therapy, systemic chemotherapy can be initiated for pulmonary KS. Single-agent chemotherapy can include liposomal doxorubicin, liposomal daunorubicin, paclitaxel, or etoposide. Various combination chemotherapy regimens have been studied and may provide higher response rates compared with single agents.<sup>3</sup> Immunosuppression remains a major concern with the use of these agents in patients with AIDS-associated KS. Antiviral ther-

apy directed against human herpesvirus 8 have shown variable success.<sup>4</sup> Agents such as interleukin 12 and a variety of angiogenesis inhibitors are under investigation as potential therapies.

Our patient initially received noninvasive positive pressure ventilation. He subsequently had worsening respiratory failure and required endotracheal intubation. Until the diagnosis of KS was confirmed, the patient was treated with broad-spectrum antibiotics for severe community-acquired pneumonia as well as coverage for *Pneumocystis jirovecii* pneumonia. Highly active antiretroviral therapy, in the form of emtricitabine, tenofovir, and efavirenz was administered after stabilization. The patient's respiratory status improved over the following days, and he was successfully extubated and transferred to the medical floor. He experienced a prolonged hospital course that was complicated by suspected immune reconstitution inflammatory syndrome and hospital-acquired pneumonia. Eventually, he was given valganciclovir, doxorubicin, and vinblastine for treatment of KS, but he died after developing overwhelming sepsis.

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